ABSTRACT

A PROSPECTIVE ASSESSMENT STUDY OF THYROID DYSFUNCTION IN MODERATE TO SEVERE COPD

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BACKGROUND

COPD being a systemic illness affects many vital organ systems in the body. Endocrinological disorders in the form of hypothyroidism is quite common among COPD individuals than compared to the general population. Hypothyroidism in COPD leads to impaired & alterted respiratory dynamic functions which results in frequent exacerbations & respiratory failures. Although research studies has been conducted in India, the literatures

pertaining to the thyroid function abnormality in COPD individuals is not quite abundant in Indian literatures. Hence this study was conducted to assess the relationship between COPD severity with thyroid function abnormality in COPD patients admitted or attending in medical OPD of Government Rajaji Hospital, Madurai.

AIMS & OBJECTIVES

The present study was conducted to assess the prevalence of thyroid dysfunction in moderate and severe COPD. To measure the relationship between COPD severity with the thyroid function abnormality.

STUDY POPULATION:

One hundred patients diagnosed previously as COPD, belonging to either sex attending / admitted in Thoracic Medicine & General Medicine OPD / Wards at Govt Rajaji Hospital, Madurai was included as study population.

METHODS

100 COPD patients were made to undergo pulmonary function test by Using spirometer. Patients belonging to moderate & severe COPD was included as subjects in the study population. Then their blood samples were analysed for thyroid function tests to determine the thyroid dysfunction in moderate & severe COPD.

RESULTS:

Our study results showed the prevealence of thyroid dysfunction in the form of hypothyroidism was observed in 67 out of 100 COPD study subjects. Mean value of TSH is of significantly elevated in our study subjects (moderate & severe COPD) with its p value being significant (<0.001). There was a significant negative correlationship between COPD severity predicting parameter FEV1 with TSH values. Mean values of Free T4 & Free T3 was of significantly reduced as the FEV1 drops down in study subjects of moderate & severe COPD. P values of Free T3 & Free T4 in our study is also of significant (<0.001). Several other parameters showed significant relation with COPD severity predicting parameter FEV1. Mechanics such as Hypoxia, Hypercarbia, Systemic Inflammatory Mediators & Iatrogenic steroids results in hypo functioning state of thyroid gland in COPD. In our study as the severity of COPD progress thyroidal biochemical of Overt & Subclinical hypothyroidism was observed.

CONCLUSION:

COPD patients in their due course of the illness develop multiple systemic complications. Hypothyroidism is one among such systemic complications of COPD. As there is progressive airflow limitation , the severity of COPD

progress which results in varied thyroid function abnormality particularly Hypothyroidism. Hypothyroidism has remarkable effects on the respiratory dynamics & mechanics of ventilation which culminating in frequent exacerbations & respiratory failure. Thyroid dysfunction in COPD has important role in affecting the quality of life & hospitalization in COPD individuals. Hence COPD patients should be regularly monitored for abnormal thyroid function & managed accordingly to improve their quality of life.